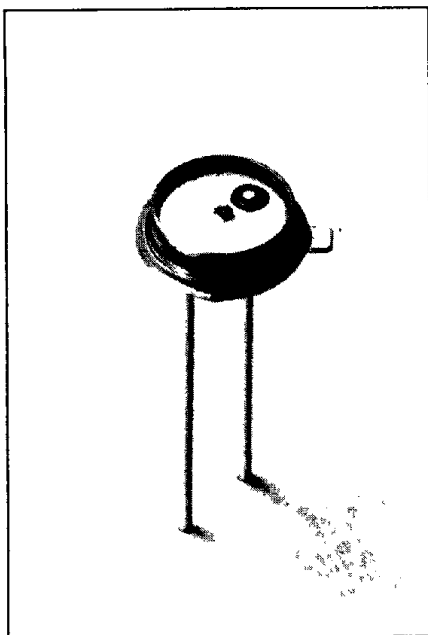


SIEMENS**SFH 407 SERIES****INFRARED EMITTER**

T-41-07

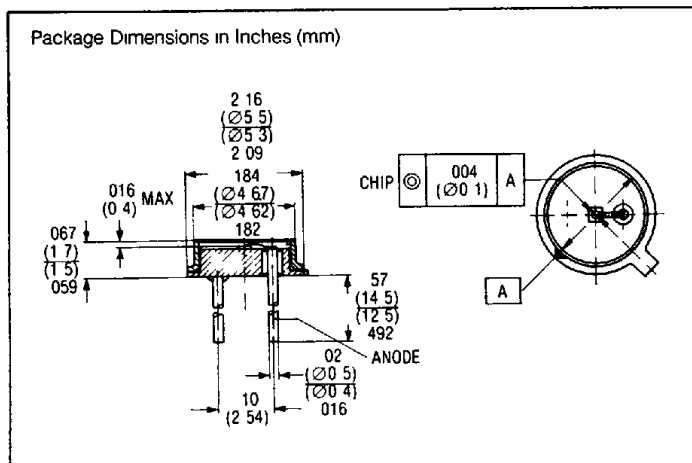
**FEATURES**

- TO-46 Package
- Flat Epoxy Coating
- 0.1" (2.54 mm) Lead Spacing
- For Fiber Optic Communications Up to 5 MBit/s
- Two Intensity Ranges
SFH 407-2, .63 to 1.25 mW/sr
SFH 407-3, 1.0 to 2.0 mW/sr

DESCRIPTION

The SFH 407 GaAs diode emits radiation in the near infrared range. The radiation emitted is excited by current flowing in the forward direction and can be modulated. This diode is particularly noted for its high radiation ability.

The SFH 407 is mounted in a TO-46 metal case and is coated with epoxy resin. It is designed for applications in fiber optics communications up to 5 MBit/s.

**Maximum Ratings**

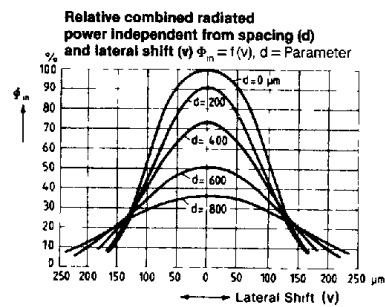
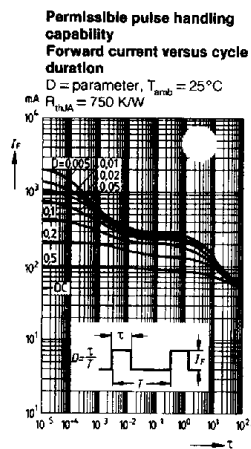
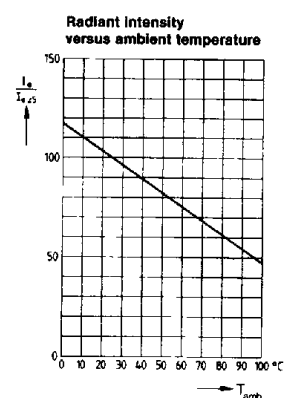
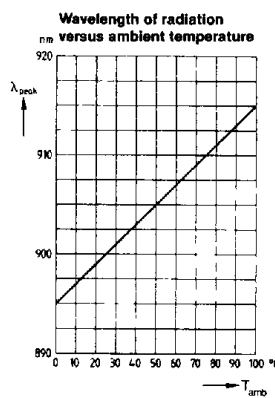
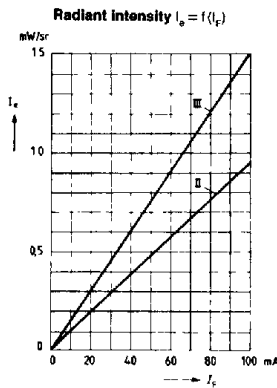
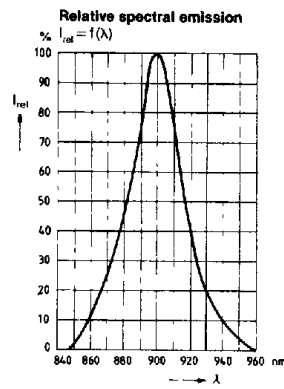
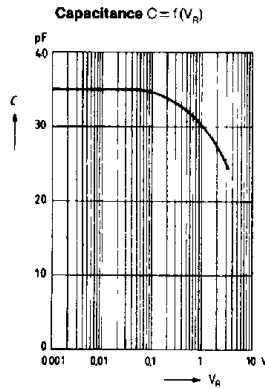
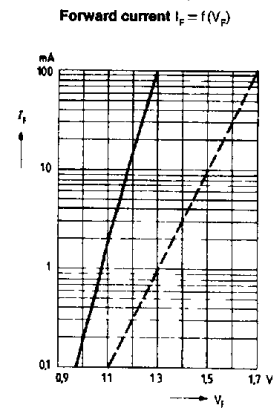
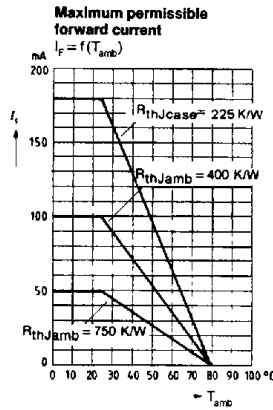
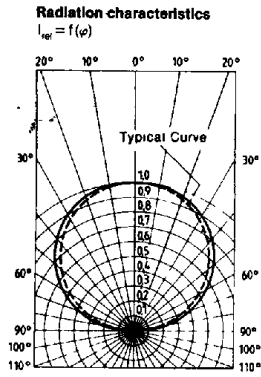
Reverse Voltage (V_R)	2 V
Forward Current (I_F)	50 mA
Forward Current When Mounted in LWL Socket (I_F), ($T_{amb} \leq 25^\circ\text{C}$)	100 mA
Surge Current (I_{FS}), $\tau \leq 100 \mu\text{s}$	200 mA
Storage Temperature Range (T_s)	-40 to +80°C
Junction Temperature (T_j)	80°C
Thermal Resistance	
Junction-to-Air (R_{thJA})	750 K/W
Junction-to-Air When Inserted in LWL Socket (R_{thJA})	400 K/W
Junction-to-Case (R_{thJC})	225 K/W

Characteristics ($T_{amb} = 25^\circ\text{C}$)

Wavelength at Peak Emission, λ_{peak}	900 $\pm$ 20 nm
Spectral Bandwidth, $\Delta\lambda$	40 nm
Half-Life Radiant Intensity in Gradient Profile Fiber with Core Diameter 63 μm , N A = 0.2 ($I_0 = 1 \text{ mW/sr}$), Φ_0	2 μW
50 μm , N A = 0.2 ($I_0 = 1 \text{ mW/sr}$), Φ_0	125 μW
Rise Time (10% to 90% $I_F = 100 \text{ mA}$), t_r	50 ns
Fall Time (90% to 10% $I_F = 100 \text{ mA}$), t_f	40 ns
Bandwidth, B	7 MHz
Forward Voltage ($I_F = 30 \text{ mA}$), V_F	1.22 (± 0.16) V
Reverse Current ($V_R = 2 \text{ V}$), I_R	0.01 (≤ 10) μA
Capacitance ($V_R = 0 \text{ V}$), C_0	35 pF

Group	-2	-3	
Radiant Intensity, I_0	0.63 to 1.25	1.0 to 2.0	mW/sr
Radiant Flux (Radiant Power) (Total) Typ., Φ_0	3.0	4.7	mW
Radiant power coupled into a stepped index fiber, $\Phi = 200 \mu\text{m}$, N A = 0.40m	60 (≥ 40)	90 (≥ 63)	μW
Radiant power coupled into a gradient index fiber, $\Phi = 50 \mu\text{m}$, N A = 0.2	1.1	1.7	μW

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Infrared Emitters